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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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EXAMINER

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BOSTON MA 02110-2804

MEHTA, A

ART UNIT

PAPER NUMBER

1638

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Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/403,262

Applicant(s)

THERES, NIKOLAUS

Examiner

Ashwin Mehta

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 4 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-22 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claims ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 1 1/2.

- 18) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: _____

KATRINA TURNER
PATENT ANALYST

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group I, claims 1-3 and 5-18, and SEQ ID NO: 1 in Paper No. 11 is acknowledged. The traversal is on the ground(s) that MPEP 803 notes that in most cases, up to ten independent and distinct nucleotide sequences will be examined in a single application without restriction, and if the search and examination of an entire application can be made without serious burden, the examiner must examine it on the merits. This is not found persuasive because searches for more than one nucleotide sequence per application are placing a serious burden on the capabilities of the Office's automated search machines. The requirement is still deemed proper and is therefore made FINAL.

Applicants also point out that original claims 19 to 22 were not included in the restriction. The mistake occurred because the verified English language translation of Applicant's foreign priority document was erroneously marked as the specification of the national phase application. This error has been corrected. Claims 19-22 have been placed into Group I. Claims 1-3 and 5-22 are examined in this Office action. Claim 4 is withdrawn from consideration as being drawn to a non-elected invention.

Specification

2. The specification fails to comply with the sequence rules (37 CFR 1.821-1.825) because sequence identifiers in the specification are missing. The amino acid and nucleotide sequences of Figures 5-8 should be identified by their SEQ ID NOs.

Claim Objections

3. Claims 1-3 and 5-22 are objected to for encompassing non-elected SEQ ID NOs.
4. Claim 2 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claim 2 attempts to limit parent claim 1 by indicating that the hybridizing nucleotide sequences hybridize under stringent conditions. It is well known in the art that hybridization can be conducted at low, moderate, and high stringencies. The recitation "stringent condition" therefore does not add any further information concerning the hybridization condition to be used.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claims 1-3 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The claims are broadly drawn towards any nucleic acid molecule comprising a nucleotide sequence as set forth in SEQ ID NO: 1 which controls side-shoot formation, petal formation, abscission formation, or any combination thereof, or a complementary sequence to said nucleotide sequence; or sequences which hybridize to said nucleic acid sequence.

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The claims read on a nucleic acid molecule per se which can be found in nature and thus, is unpatentable to applicant. The nucleic acid molecule, as claimed, has the same characteristics as those found naturally in the genome or as cellular precursors thereof and therefore does not constitute patentable subject matter. See *American Wood v. Fiber Disintegrating Co.*, 90 U.S. 566 (1974), *American Fruit Growers v. Brodget Co.*, 283 U.S. 2 (1931), *Funk Brothers Seed Co. v. Kalo Inoculant Co.*, 33 U.S. 127 (1948), *Diamond v. Chakrabarty*, 206 USPQ 193 (1980). It is suggested that applicant use the language "isolated" or "purified" in connection with the nucleic acid molecule to identify a product that is not found in nature.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1 and 5-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "derivative" in line 7 of claim 1 renders it and claims 5-22 indefinite. It is not clear how this derivative differs from SEQ ID NO: 1. It is not clear what this derivative is.

7. Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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The recitation “stringent conditions” renders the claim indefinite. “Stringent” is a relative term and does not define any condition in which the hybridization takes place.

8. Claims 10 and 18-20 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The recitation “controlled” in line 2 of claim 10 renders it and dependent claims 18-20 indefinite. The entire developmental program of any plant can be considered to be controlled by the genes of a plant. It is therefore not clear how side-shoot formation, petal formation, and abscission formation is “controlled” by the claimed method. That is, the recitation does not clearly distinguish how the method changes the normal side-shoot, petal, and abscission zone formation of a plant. It is suggested that the claims be amended to indicate that the formation of these structures is altered or modified, and how they are altered or modified so as to indicate that the control is different from a “normal” plant.

9. Claims 10-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 10 and dependent claims 11-20 are indefinite because there is a lack of agreement between the preamble of the claim and the positive method steps. The last step in the claim does not indicate that the plant is in any way altered from a non-transformed plant. It is suggested that

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claim 10 be amended to indicate that side-shoot, petal, and abscission zone formation is altered in the regenerated plant, to be consistent with the preamble of the claim.

10. Claim 15 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 15 is technically improperly dependent on claim 11. It is suggested that the claim, after "wherein the" in line 1, recite --integrating is by homologous recombination in the genomic region of a homologous gene--.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

11. Claims 1, 2, and 5-22 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The claims are broadly drawn towards any nucleic acid molecule comprising (a) a nucleotide sequence as set forth in SEQ ID NO: 1 which controls side-shoot formation, petal formation, abscission formation, or any combination thereof, (b) any fragment or derivative thereof, or said complementary sequence to said nucleotide sequence, or (c) any nucleotide sequence which hybridizes to SEQ ID NO: 1 under any stringency condition; a vector,

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transformed plant cell or plant tissue comprising any of said nucleotide sequences; a method for generating a plant having controlled side-shoot formation, petal formation, abscission zone formation, or any combination thereof, comprising integrating any of said nucleotide sequences into a plant cell genome and regenerating it into a plant; a plant obtained by said method, and seed thereof.

The specification describes the isolation of genomic and cDNA clones encoding the lateral suppressor (*Ls*) polypeptide of tomato (pages 23-28, SEQ ID NO: 1). The specification also indicates that *Ls* is involved in side-shoot formation, petal formation, and abscission zone formation (page 2, line 30 to page 4, line 13). However, the specification does not describe any nucleic acid molecules that are involved in only one or two of these three events, as encompassed by the claims, rather than all three. The specification does not provide any information that correlates the any portion of the sequence of SEQ ID NO: 1 with any of these three functions. One skilled in the art then cannot correlate the structure of the claimed nucleic acid molecules their function in mediating one or two of side-shoot, petal, and abscission zone formation. A nucleic acid molecule that encodes a polypeptide that is not involved in all three of these events would not be related to SEQ ID NO: 1.

The specification does not describe any fragments or derivatives of SEQ ID NO: 1 that also retains its functions. As no information is described correlating the structure of SEQ ID NO: 1 with its functions, one would not know what sequences may be deleted or changed from SEQ ID NO: 1 without altering its functions. Furthermore, the specification does not describe any nucleotide sequences that hybridize to SEQ ID NO: 1 and which encode a polypeptide that has all of the functional properties as the polypeptide encoded by SEQ ID NO: 1. The claims

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encompass hybridizations that occur under any stringency conditions. It is well established in the art that hybridizations that do not occur under high stringency conditions allow for the binding of sequences that are unrelated to the template sequence. Also see Fiers vs. Sugarno, 25 USPQ 2d (CAFC 1993) at 1606, which states that “[a]n adequate written description of a DNA requires more than a mere statement that it is part of the invention and reference to a potential method for isolating it; what is required is a description of the DNA itself”. Given the breadth of the claims encompassing fragments or derivatives of SEQ ID NO: 1, and nucleic acid molecules that hybridize to SEQ ID NO: 1 at any stringency condition, and which do not encode all of the functional properties of SEQ ID NO: 1, and the lack of written description as discussed above, the specification fails to provide an adequate written description of the multitude of nucleic acid molecules encompassed by the claims.

12. Claims 1, 2, and 5-22 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The claims are broadly drawn towards any nucleic acid molecule comprising (a) a nucleotide sequence as set forth in SEQ ID NO: 1 which controls side-shoot formation, petal formation, abscission formation, or any combination thereof, (b) any fragment or derivative thereof, or said complementary sequence to said nucleotide sequence, or (c) any nucleotide sequence which hybridizes to SEQ ID NO: 1 under any stringency condition; a vector, transformed plant cell or plant tissue comprising any of said nucleotide sequences; a method for

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generating a plant having controlled side-shoot formation, petal formation, abscission zone formation, or any combination thereof, comprising integrating any of said nucleotide sequences into a plant cell genome and regenerating it into a plant; a plant obtained by said method, and seed thereof.

The specification teaches that *Ls* is involved in side-shoot formation, petal formation, and abscission zone formation (page 2, line 30 to page 4, line 13). Page 16, lines 13-21 also teach that cosmids containing the *Ls* gene complemented *ls* mutant plants for the formation of side shoots, petals, and abscission zones. Example 7 on page 28 also teaches that transgenic plants transformed with a *Ls* cDNA in sense or antisense orientation were produced, and that the plants expressing antisense *Ls* showed a reduction in side-shoot formation.

However, the specification does not teach any nucleic acid molecules that are involved in only one or two of these three events, as encompassed by the claims, rather than all three. Nucleic acid molecules encoding proteins that are not involved in all three functions would not be a *Ls* gene. Further, the specification does not provide any guidance in developing fragments or derivatives of SEQ ID NO: 1 that retain its functional activities. In the absence of this guidance one would be left to randomly make any number of fragments of any length and assay them for retention of functional activity, which would be undue experimentation.

Furthermore, the specification does not enable one to obtain transgenic plants expressing an isolated nucleic acid molecule of claim 1 wherein side-shoot, petal, and abscission zone formation is controlled. Although Example 7 teaches that transgenic plants expressing the *Ls* cDNA in sense orientation were produced, the phenotype of these plants is not stated. It is unpredictable what the phenotype of these *Ls* overexpressing plants is. The phenotype of a

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transgenic plant transformed with a transgene is not predictable. For example, Nehaus et al. expressed a class I chitinase gene in tobacco plants because endochitinases are believed to be important in the defense of plants against chitin-containing fungal pathogens. However, transgenic plants expressing high levels of chitinase did not show substantial increase in fungal resistance and did not protect the plant against infection (abstract, page 149, paragraph bridging the columns). It is then incorrect to just assume that the transgenic plants of Example 7 of the instant specification would have enhanced side-shoot, petal, and abscission zone formation. See, Genentech, Inc. V. Novo Nordisk, A/S, 42 USPQ2d 1001, 1005 (Fed. Cir. 1997), which teaches that “the specification, not the knowledge of one skilled in the art” must supply the enabling aspects of the invention.

Furtherstill, the specification does not teach one to suppress side-shoot, petal, or abscission zone formation by integrating a nucleic acid molecule of claim 1 into a plant cell genome wherein the nucleic acid molecule includes a ribozyme. At most, the specification points to one example in the prior art in which ribozyme technology has been used to for tobacco mosaic virus resistant tomato and tobacco plants (page 19, lines 22-28). No further guidance is provided as to how ribozyme technology can be used to practice the claimed invention. Such guidance is required, as ribozyme technology is not a reliable means of controlling gene expression in plants. Arndt et al teach that there have been a number of failed experiments using antisense/ribozyme technology, indicating that use of this technology is not straightforward, and discuss numerous areas in which this technology needs to be improved (Genome, 1997, Vol. 40, page 787, first column). It would require undue experimentation by one skilled in the art to make these improvements in order to use ribozymes with the claimed method. Given the breadth

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of the claims encompassing nucleic acid fragments involved in only one or two rather than all three of side-shoot formation, petal formation, and abscission zone formation, fragments and derivatives of SEQ ID NO: 1, control of side-shoot, petal and abscission zone formation of plants by introduction of said nucleic acid fragments, and suppression of side-shoot, petal, and abscission zone formation using ribozymes, unpredictability of the art and lack of guidance of the specification as discussed above, undue experimentation would be required by one skilled in the art to make and use the claimed invention.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

13. Claims 1, 2, 5-10, 16, 17, 19, and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Mandel et al.

The claims are broadly drawn towards any nucleic acid molecule comprising (a) a nucleotide sequence as set forth in SEQ ID NO: 1 which controls side-shoot formation, petal formation, abscission formation, or any combination thereof, (b) any fragment or derivative thereof, or said complementary sequence to said nucleotide sequence, or (c) any nucleotide sequence which hybridizes to SEQ ID NO: 1 under any stringency condition; a vector, transformed plant cell or plant tissue comprising any of said nucleotide sequences; a method for generating a plant having controlled or enhanced side-shoot formation, petal formation,

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abscission zone formation, or any combination thereof, comprising integrating any of said nucleotide sequences into a plant cell genome and regenerating it into a plant; a plant obtained by said method.

Mandel et al. teach transgenic plants transformed with a vector comprising the AP1 gene. Time of flowering (and therefore petal formation) is accelerated in the transgenic plants (page 523). The AP1 gene would hybridize to SEQ ID NO: 1 of the instant invention under the appropriate stringency condition. AP1 is encompassed by claim 1, as the claim encompasses nucleotide sequences involved in one, two or all three of petal, side-shoot, and abscission zone formation.

14. Claims 1, 2, 5-12, 19, and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Savin et al.

The claims are broadly drawn towards any nucleic acid molecule comprising (a) a nucleotide sequence as set forth in SEQ ID NO: 1 which controls side-shoot formation, petal formation, abscission formation, or any combination thereof, (b) any fragment or derivative thereof, or said complementary sequence to said nucleotide sequence, or (c) any nucleotide sequence which hybridizes to SEQ ID NO: 1 under any stringency condition; a vector, transformed plant cell or plant tissue comprising any of said nucleotide sequences; a method for generating a plant having controlled or suppressed side-shoot formation, petal formation, abscission zone formation, or any combination thereof, comprising integrating any of said nucleotide sequences into a plant cell genome and regenerating it into a plant; a plant obtained by said method; or wherein said nucleotide sequence is in antisense orientation.

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Savin et al. teach transgenic carnation plants transformed with a vector that expresses antisense ACO RNA. The transformed plants exhibit delayed petal senescence (pages 970-971). The ACO gene would hybridize to SEQ ID NO: 1 of the instant invention under the appropriate stringency condition. ACO is encompassed by claim 1, as the claim encompasses nucleotide sequences involved in one, two or all three of petal, side-shoot, and abscission zone formation.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. Claims 1, 2, 5-10, 16-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mandel et al. in view of McCormick et al.

The claims are broadly drawn towards any nucleic acid molecule comprising (a) a nucleotide sequence as set forth in SEQ ID NO: 1 which controls side-shoot formation, petal formation, abscission formation, or any combination thereof, (b) any fragment or derivative thereof, or said complementary sequence to said nucleotide sequence, or (c) any nucleotide sequence which hybridizes to SEQ ID NO: 1 under any stringency condition; a vector, transformed plant cell or plant tissue comprising any of said nucleotide sequences; a plant derived from said cell, and seed derived from said plant; a method for generating a plant having controlled or enhanced side-shoot formation, petal formation, abscission zone formation, or any

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combination thereof, comprising integrating any of said nucleotide sequences into a plant cell genome and regenerating it into a plant; or wherein said plant is tomato, rape, potato, or snapdragon; a plant obtained by said method, and seed derived from it .

Mandel et al. is taught above. Mandel et al. also stress that ectopically expressing AP1 is useful for reducing flowering time of agriculturally important crop plants (page 524).

Mandel et al. do not teach a tomato, rape, potato, or snapdragon plant, or seeds derived from transgenic plants.

McCormick et al. teach a method to produce transgenic tomato plants. Seed of R1 transformant plants was collected and grown to determine stability and inheritance of the transgenes (pages 82-83).

It would have been obvious and within the scope of one of ordinary skill in the art at the time the invention was made to use the method of accelerating flowering and petal formation of Arabidopsis plants of Mandel et al. by using other plants, such as the tomato plants of McCormick et al. One would have been motivated to accelerate flowering given its usefulness for agriculturally important crop plants, as stressed by Mandel et al. Acceleration of flowering and petal formation would also obviously be desired in the ornamental industry. One would also obviously collect seed from the transgenic plants, for the purpose of propagation.

16. Claims 1, 2, 5-13, 15, and 18-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Savin et al in view of McCormick et al, taken with Applicant's admitted state of the prior art.

The claims are broadly drawn towards any nucleic acid molecule comprising (a) a nucleotide sequence as set forth in SEQ ID NO: 1 which controls side-shoot formation, petal formation, abscission formation, or any combination thereof, (b) any fragment or derivative thereof, or said complementary sequence to said nucleotide sequence, or (c) any nucleotide sequence which hybridizes to SEQ ID NO: 1 under any stringency condition; a vector, transformed plant cell or plant tissue comprising any of said nucleotide sequences; a plant derived from said cell, and seed derived from said plant; a method for generating a plant having controlled or suppressed side-shoot formation, petal formation, abscission zone formation, or any combination thereof, comprising integrating any of said nucleotide sequences into a plant cell genome and regenerating it into a plant; or wherein the integrated nucleic acid molecule is expressed in sense orientation; or wherein said plant is tomato, rape, potato, or snapdragon; a plant obtained by said method, and seed derived from it .

Savin et al. is described above. Savin et al. also assert that genetic engineering can be used to improve properties of plants, such as post harvest qualities (page 972).

Savin et al. do not teach co-suppression, or suppression of gene expression using ribozymes, or transgenic tomato, rape, potato, or snapdragon plants.

McCormick et al. is taught above.

Applicant's admitted state of the prior art teaches that suppression of gene expression using co-suppression or homologous recombination is established in the prior art (specification on page 19, lines 17-21; page 20, lines 6-10).

It would have been obvious and within the scope of one of ordinary skill in the art at the time the invention was made to use the method of suppressing ACO gene expression in carnation

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plants of Savin et al. in other plants, such as the tomato plants of McCormick et al. One would be motivated to do so to improve postharvest qualities of plants by genetic engineering, as asserted by Savin et al. It also would have been obvious to use other means to suppress ACO gene expression, such as co-suppression or by homologous recombination. One would be motivated to use these techniques as they are established for use in plants, as taught by Applicant's admitted state of the prior art. One would also obviously collect seed from the transgenic plants, for the purpose of propagation.

SUMMARY

17. Claims 3 and 14 are deemed free of the prior art, given the failure of the prior art to teach or fairly suggest SEQ ID NO: 1 or the isolated *Ls* gene from tomato, and use of ribozymes with the nucleic acid molecule of claim 1 to suppress side-shoot, petal, or abscission zone formation.

18. No claim is allowed.

CONTACT INFORMATION

Any inquiry concerning this or earlier communications from the examiner should be directed to Ashwin Mehta whose telephone number is 703-306-4540. The examiner can normally be reached on Mondays-Thursdays and alternate Fridays from 8:00 A.M. to 5:30 P.M. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paula Hutzell can be reached on 703-308-4310. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3014 or 703-872-9306 for regular

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communications and 703-872-9307 for After Final communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0196.

Ashwin Mehta
September 10, 2001

A handwritten signature in cursive script, appearing to read "Amy Nelson".

AMY J. NELSON, PH.D
PRIMARY EXAMINER